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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/623,264	07/18/2003	Chia-Hua Chou	81842.0016	3497

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EXAMINER

HALEY, JOSEPH R

ART UNIT PAPER NUMBER

2627

DATE MAILED: 07/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/623,264

Applicant(s)

CHOU ET AL.

Examiner

Joseph Haley

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 April 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-9, 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang et al. (US 6944109) further considered with Kamioka et al. (US 6930968).

In regard to claim 1, Wang et al. teaches an optical drive controller (fig. 3 element 42 and 49) adapted to couple to and cause a laser diode driver (47 and 50) to provide signals to drive a laser diode (the laser diode is contained in the pick-up unit), the optical drive controller capable of testing a channel between the optical drive controller and a laser diode driver and, in response to testing a channel between the optical drive controller and a laser diode driver, generating a set of calibration signals to program a drive characteristic associated with a laser diode driver to accommodate a characteristic of a channel between the optical drive controller and a laser diode driver (Fig. 3 elements 53 and 54) but does not teach testing timing characteristics of an electrical channel and the set of calibration signals responsive to the timing characteristics tested by the optical drive controller.

Kamioka et al. teaches testing timing characteristics of an electrical channel and the set of calibration signals responsive to the timing characteristics tested by the

optical drive controller (see column 16 lines 47-53. Kamioka teaches controlling overshoot based on the timing signal).

The two are analogous art because they both deal with the same field of invention of recording on optical media.

At the time of invention it would have been obvious to one of ordinary skill in the art to provide the apparatus of Wang et al. with the timing control of Kamioka et al. The rationale is as follows: At the time of invention it would have been obvious to provide the apparatus of Wang et al. with the timing control of Kamioka et al. because it would prevent overshoot.

In regard to claim 2, Wang et al. teaches the optical drive controller outputs one or more electrical test signals to a laser diode driver (fig. 3 element 51), through a channel between a laser diode driver and the optical drive controller (53 and 54), the optical drive controller receiving one or more monitor signals generated in response to the one or more electrical test signals (fig. 3 elements 53 and 54), the one or more monitor signals received through a electrical channel between a laser diode driver and the optical drive controller (53 and 54) the optical drive controller generating one or more calibration signals responsive to the monitor signals (fig. 3 element 55).

In regard to claims 3, 7 and 11, Wang et al. teaches the optical drive controller generates a control signal to set a laser diode driver in a calibration mode for a calibration process and generates a control signal to set a laser diode driver in a normal operation mode (see column 6 lines 57-61. Wang et al. teaches using a test

area for power calibration, therefore there must be a control signal to determine whether or not the diode is in calibration mode).

In regard to claim 4, Wang et al. teaches the calibration signals adjust circuits within the optical drive controller (fig. 3 It is inherent that when a different calibration signal is output circuits would adjust inside the controller).

In regard to claim 5, Wang et al. teaches the calibration signals adjust circuits within a laser diode driver (fig. 3 It is inherent that when a different calibration signal is input into the diode driver circuits would adjust).

In regard to claim 6, Wang et al. teaches the optical drive controller outputs a test signal to a laser diode driver (fig. 3 element 51), the optical drive controller receiving a monitor signal generated in response to the test signal (fig. 3 element 55), the optical drive controller outputting a second test signal, responsive to the monitor signal, for calibrating a laser diode driver in an iterative process (The microprocessor 42 outputs a new test signal every time a new monitor signal is input. see also column 6 lines 18-29).

In regard to claims 8, 9 and 10 Wang et al. and Kamioka et al. teach all the elements of this claim except the use of a WSR circuit.

The use of WSR circuits are well known and would have been obvious to use. The rationale is as follows: It would have been obvious to one of ordinary skill in the art to provide the apparatus of Wang et al. and Kamioka et al. with a WSR circuit because WSR circuits are an easy and inexpensive way to store information.

In regard to claim 9, Wang et al. teaches the optical drive controller generates a calibration signal in response to the monitor signal (fig. 3 element 51) and, responsive to the calibration signal, programs a drive characteristic of a laser diode driver to accommodate a characteristic of the signal channel between the optical drive controller and a laser diode driver determined by testing (fig. 3 the calibration determines the power based on elements 53 and 54).

In regard to claim 12, see claim 9 rejection above.

Claim 10 rejected under 35 U.S.C. 103(a) as being unpatentable over Wang et al. further considered with Official Notice.

In regard to claim 10, Wang et al. teaches all the elements of claim 10 except wherein the signal channel couples through a flexible cable.

The examiner takes Official Notice that using a flexible cable to connect a pickup head to the controller is well known. At the time of invention it would have been obvious to one of ordinary skill in the art couple the signal channel through the flexible cable. The rationale is as follows: At the time of invention it would have been obvious to couple the signal channel through the flexible cable because the optical pick-up moves and if the cable is not flexible the connection would be broken.

Response to Arguments

Applicant's arguments with respect to claims 1-12 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Lai et al. (US 2004/0125836), Murakami et al. (US 5805559) and Endoh et al. (US 6975578) all teach laser power control with feedback.


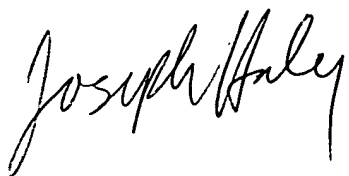
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Haley whose telephone number is 571-272-0574. The examiner can normally be reached on M-F 8:30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on 571-272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

jrh



THANG V. TRAN
PRIMARY EXAMINER